Washington State Institute for Public Policy

Benefit-Cost Results

School-wide positive behavior programs

Benefit-cost estimates updated December 2014. Literature review updated June 2014.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our technical documentation.

Program Description: Some K–12 schools operate school-wide student behavior improvement programs as one way to focus the school environment on learning (rather than discipline or other issues). These programs are often described as "positive behavior" interventions or systems and include specific programs such as School-wide Positive Behavioral Interventions and Supports, Positive Action, and the Responsive Classroom. The programs encourage pro-social behavior for all students. (In contrast, other interventions target problem behaviors among troubled students who are not the focus of this analysis.) School-wide behavior programs typically include a specialized curriculum, professional development for teachers and staff, and encouragement of and rewards for positive behaviors such as being on time and listening in the classroom.

Benefit-Cost Summary

Program benefits	
Participants	$14,892
Taxpayers	$7,631
Other (1)	$8,700
Other (2)	$518
Total	$31,741
Costs	($221)
Benefits minus cost	$31,521

Summary statistics	
Benefit to cost ratio	$143.98
Benefits minus costs	$31,521
Probability of a positive net present value	99 %

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our technical documentation.

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	$0	$584	$1,684	$294	$2,562
Labor market earnings (test scores)	$14,957	$6,380	$7,393	$0	$28,731
K-12 grade repetition	$0	$157	$0	$79	$235
Health care (educational attainment)	($65)	$510	($377)	$257	$325
Adjustment for deadweight cost of program	$0	$0	$0	($111)	($111)
Totals	$14,892	$7,631	$8,700	$518	$31,741

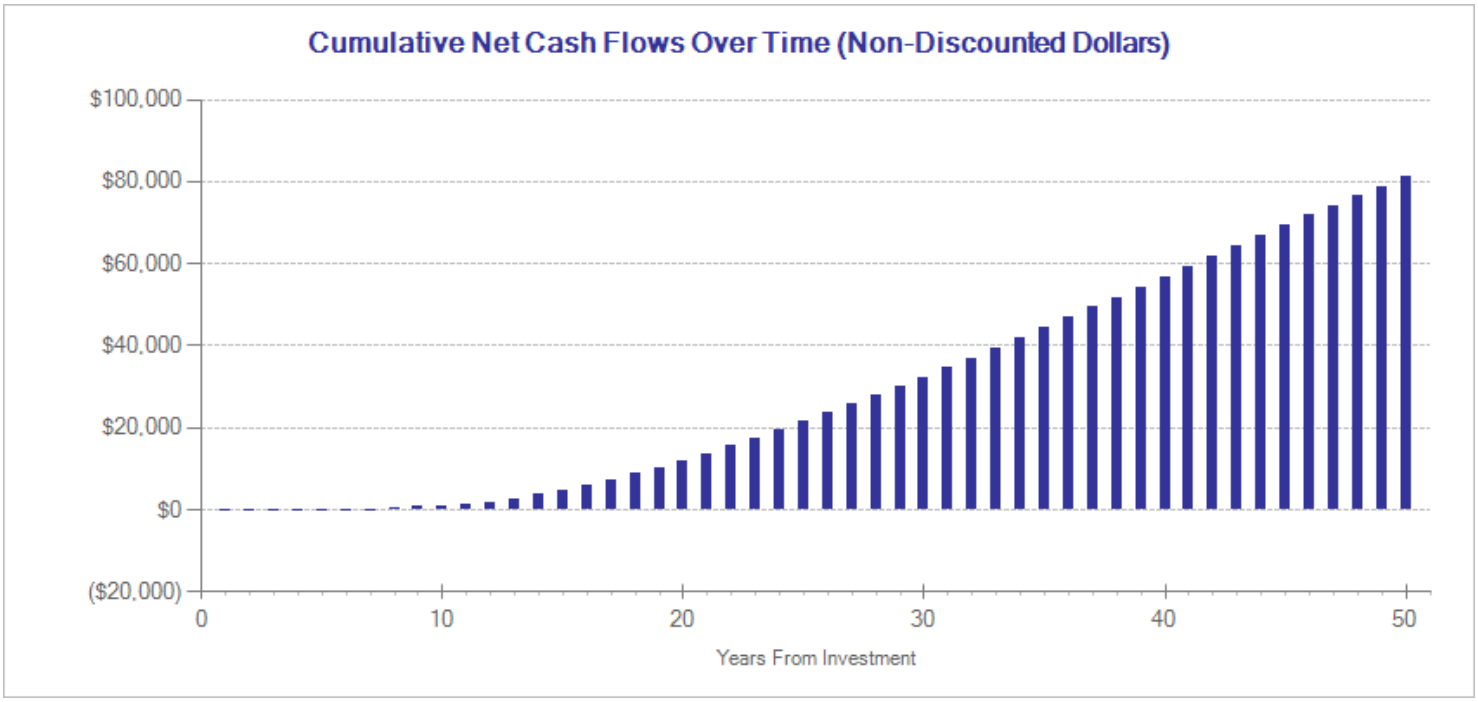
We created the two “other” categories to report results that do not fit neatly in the “participant” or “taxpayer” perspectives. In the “Other (1)” category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the “Other (2)” category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	$221	1	2013	Present value of net program costs (in 2013 dollars)	($221)
Comparison costs	$0	1	2013	Uncertainty (+ or - %)	10 %

Costs are WSIPP estimates based on a model for the total cost for implementation as described in Blonigen, B.A., Harbaugh, W.T., Singell, L.D., Horner, R.H., Irvin, L.K., & Smolkowski, K.S. (2008). Application of economic analysis to school-wide positive behavior support (SWPBS) programs. *Journal of Positive Behavior Interventions, 10*(1), 5-19. The cost estimate assumes district-wide implementation of a positive behavior program in ten schools. We calculate the value of staff time using average Washington State compensation costs (including benefits) as reported by the Office of the Superintendent of Public Instruction. To calculate a per-student annual cost, we use the average number of students per school in Washington's prototypical schools formula.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our technical documentation.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
				ES	p-value	ES	SE	Age	ES	SE	Age
Test scores	Primary	7	33784	0.452	0.001	0.403	0.103	9	0.242	0.113	17
Crime	Primary	2	12736	-0.644	0.001	-0.148	0.054	9	-0.148	0.054	19
K-12 grade repetition	Primary	1	5754	-0.307	0.001	-0.307	0.007	9	-0.307	0.007	17
High school grad via test scores	Primary	n/a	0	n/a	n/a	0.065	0.031	18	0.065	0.031	18
Suspensions/expulsions	Primary	1	5754	-0.318	0.001	-0.318	0.007	9	-0.318	0.007	18

Citations Used in the Meta-Analysis

Flay, B.R., Allred, C.G., & Ordway, N. (2001). Effects of the positive action program on achievement and discipline: Two matched-control comparisons. *Prevention Science, 2*(2), 71-89.

Horner, R.H., Smolkowski, K., Todd, A.W., Esperanza, J., Sugai, G., Eber, L., & Nakasato, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions, 11*(3), 133-144.

Rimm-Kaufman, S., Fan, X., Chiu, Y., & You, W. (2007). The contribution of the Responsive Classroom Approach on children's academic achievement: Results from a three year longitudinal study. *Journal of School Psychology,* 45, 401-421.

Snyder, F., Vuchinich, S., Acock, A., Washburn, I., Beets, M., & Li, K. (2010). Impact of the Positive Action program on school-level indicators of academic achievement, absenteeism, and disciplinary outcomes: A matched-pair, cluster randomized, controlled trial. *Journal of Research on Educational Effectiveness, 3*(1), 26-55.

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